

ABSTRACT OF THE DISCLOSURE

A tracking generator for an RF measurement instrument having a receiver and a controller includes a vector modulator internal to the tracking generator. The internal vector modulator modulates complex baseband signals based on data from the controller to produce a vector modulation signal. The vector modulation signal is used to modulate a local oscillator frequency from the receiver in an output mixing stage to produce a test signal having an output frequency that matches a measurement frequency to which the receiver is tuned. By controlling the complex baseband data from the controller, an adaptive filter at the output of a DAC that produces an analog signal from the digitally modulated complex baseband data, an internal independent oscillator for the vector modulator, or a large offset phase-locked loop, an offset from the measurement frequency may be generated for the output frequency.